

Internships, Research  
Assistantships and  
Graduate School

# Different Types of “Internships”

- \* Company/industry internships
- \* Research assistantships at other universities or national laboratories or research centers
  - \* During summer or academic year
  - \* In some cases may be used as senior project

# General Advice

- \* Do your homework
  - \* E.g.: most oil companies only take grad students as interns and you should apply early
- \* Create and update your resume/cv
  - \* Build skillset and background experience with volunteer work and extra-curricular activities (can also lead to letter of recommendation writers)
  - \* Write specific version for each application with focus on directly applicable skills and classes
  - \* Think about what sets you apart from the “average” Geology student
  - \* One page will suffice in most cases, create small-size pdf for E-mail attachment

# General Advice

- \* Networking helps!
  - \* Both in terms of being informed about opportunities and to help build resume
  - \* Attend local society meetings
  - \* Present your research at conferences (also builds cv)
- \* Use your official CPP E-mail address on your resume and in E-mail correspondence
- \* Consider having business cards made
- \* Be pro-active!

# Industry Internships

- \* Most likely to be successful: through contacts, local societies, other students, alumni and faculty
- \* Can also apply through websites of individual companies
- \* Can't be too picky about job-related tasks, but should also not be doing menial tasks without pay...

# Research Assistantships

- \* Commonly 8 – 10 weeks in summer
- \* Application deadline usually in January or February
  - \* letters of recommendation needed
- \* Many pay a stipend or salary, travel/accommodation expenses
- \* Let us know what types of opportunities are of interest to you and we will forward information to you as we receive announcements/E-mail



# Research Assistantships : Examples

- \* REU:

- [http://www.nsf.gov/crssprgm/reu/list\\_result.cfm?unitid=5050](http://www.nsf.gov/crssprgm/reu/list_result.cfm?unitid=5050)

- \* Faculty/students familiar with IRIS, SAGE, SCEC, Keck Geology, UNAVCO

- \* GeoCorps America:

- [http://rock.geosociety.org/g\\_corps/index.htm](http://rock.geosociety.org/g_corps/index.htm)

- \* NASA (One Stop Shopping Initiative): <https://intern.nasa.gov/>

- \* And more....

- \* <http://cires.colorado.edu/research/research-groups/anne-sheehan-group/internships-and-jobs/>

# Internships: SCEC

Southern California  
Earthquake Center (SCEC)

[https://www.scec.org/  
education/college/  
internships/index.html](https://www.scec.org/education/college/internships/index.html)

- Summer Undergraduate Research Experience
- Undergraduate Studies in Earthquake Information Technology

## Internships Available at SCEC

Opportunities for Undergraduate Students

The Southern California Earthquake Center (SCEC) translates basic research in earthquake system science into practical products to improve seismic hazard analysis and reduce earthquake risk. The Center includes over 600 scientists at more than 65 institutions worldwide.

### USEIT

#### Undergraduate Studies in Earthquake Information Technology

##### Description:

Work as a team to develop technical tools for scientists, educators, and policy makers to communicate important concepts about earthquakes, faults, seismic hazard mitigation, and earthquake risk reduction.

##### Term & Location:

Summer, University of Southern California

##### Candidates:

Undergraduate sophomores, juniors, and seniors from all majors



### SURE

#### Summer Undergraduate Research Experience

##### Description:

Conduct primary field, laboratory, and/or numerical research under the supervision of leading scientists in the fields of geophysics, earthquake geology, seismology, tectonics, and geodesy.

##### Term & Location:

Summer, various SCEC institutions

##### Candidates:

Undergraduate juniors and seniors in earth sciences or a related field



Application process begins December 2010:  
[www.scec.org/internships](http://www.scec.org/internships)

University of Southern California | 3651 Trowdale Parkway, Suite 169 | Los Angeles, California, 90089-0742 | 213.821-6340 | [www.scec.org](http://www.scec.org)



# Internships: RESESS

RESESS is a summer internship program for college students from underrepresented populations in the geoscience

<http://resess.unavco.org/resess.html>



The flyer for the RESESS Internship Program features a header image of six diverse students standing outdoors. The title "RESESS" is prominently displayed in a stylized font. Below the header, the text "RESEARCH EXPERIENCES IN SOLID EARTH SCIENCES FOR STUDENTS" is written above the program name. The main section is titled "INTERNSHIP PROGRAM" and "Research Experiences in Solid Earth Science (RESESS)". It describes the program as a multi-year, paid summer research internship for undergraduates in geology and geophysics, with a goal of increasing diversity. A photograph shows three students in a field with surveying equipment. Another photo shows a student pointing at a screen. A third photo shows two students working with a microscope. The flyer lists the benefits for interns, including a competitive wage, round-trip air fare, furnished apartments, and a professional meeting. It also provides information on how to apply, including a deadline of February 1st. A list of benefits for students is provided, such as engaging in cutting-edge research, joining a growing community, and having travel opportunities. The flyer includes logos for UNAVCO, SOARS, IRIS, USGS, and NASA, and a cartoon character holding a Facebook logo. Contact information for UNAVCO is provided at the bottom right.

**RESESS**  
RESEARCH EXPERIENCES IN SOLID EARTH SCIENCES FOR STUDENTS

## INTERNSHIP PROGRAM

### Research Experiences in Solid Earth Science (RESESS)

The **RESESS** program is a multi-year, paid summer research internship for undergraduates in geology and geophysics and related fields (math, physics, chemistry, etc) who are interested in exploring the solid Earth geosciences through research experience. The main goal of RESESS is increasing diversity in the geosciences.

UNAVCO, a non-profit membership-governed consortium, facilitates geoscience research and education using geodesy.

RESESS is dedicated to broadening participation in the solid Earth sciences – anything from ground water to deep mantle – and everything in between! Students from historically under-represented groups such as Black or African American, Hispanic or Latino, American Indian or Alaska Native, and Native Hawaiian or other Pacific Islander are particularly encouraged to apply. Students should submit an application before February 1st for the following summer. Please inquire in February as to the status of the application process.

The interns work 40 hours a week and earn a competitive wage with round-trip air fare and furnished apartments provided at no cost. Interns are also supported financially to attend one professional, national science meeting each year. The 10-week summer program typically starts in early June and continues through mid-August.

New RESESS interns start after their second or third year in undergraduate studies and have structured mentoring, paid research internships, and a supported learning community for up to 4 years. The first year's research is done with scientists at the University of Colorado at Boulder or the United States Geological Survey in Golden, Colorado. Interns may spend subsequent summers in other research laboratories across the country including overseas projects with various scientists.

The application form and more information are available at [www.resess.unavco.org](http://www.resess.unavco.org).

Find UNAVCO and RESESS on Facebook

**STUDENTS WILL**

- Engage in cutting edge research in geology and geophysics
- Join a growing community of diverse young scientists
- Network with other students and scientists around the world
- Have opportunities to travel while conducting research
- Command their futures

UNAVCO SOARS IRIS USGS NASA

6350 Naurius Drive Boulder, CO 80501-5553  
T 303.381.7500 F 303.381.7501  
[www.unavco.org/resess](http://www.unavco.org/resess)

# Internships: SAGE

- Summer of Applied Geophysical Experience
- Designed to introduce students in geophysics and related fields to "hands on" geophysical exploration and research.
- Program emphasizes both teaching of field methods and research related to a variety of basic and applied problems
- <http://www.lanl.gov/projects/national-security-education-center/geophysics-planetary-physics/sage/index.php>





# Internships: JPL

- Large variety of opportunities: <http://www.jpl.nasa.gov/edu/intern/>
- Many have 3.0 GPA requirement
- Geoscience, engineering, planetary science, remote sensing, GIS



# Graduate School Timeline

- \* Two years before graduation:
  - \* Keep up GPA
  - \* Start senior thesis project, so you will be able to present your research results at conferences
  - \* Consider taking additional classes
    - \* Only if this will not negatively affect your GPA and/or your graduation date
  - \* Attend local conferences and meetings
  - \* Start thinking about who could write a good letter of recommendation for you
  - \* Build a strong cv/resume

# Graduate School Timeline

- \* ? – Sept of year prior to starting grad school:
  - \* Research universities, programs and faculty
    - \* MSc and/or PhD
    - \* part-time or full-time student
    - \* geographic restrictions
    - \* funding
    - \* specific programs/majors
    - \* talk to department faculty and other contacts
    - \* study for GRE/take GRE allowing for time to re-take
    - \* choose a range of schools
    - \* consider application fee as investment in future
  - \* When at conferences, talk to faculty and students



# Graduate School Timeline

- \* August– Nov:

- \* Write E-mails to potential faculty advisors

- \* Do research (website)

- \* Write specific/personal E-mail

- \* Write personal statement

- \* Ask for feedback

- \* Letters of recommendation

- \* Ask weeks in advance (November)

- \* Best approach: provide folder with summary spreadsheet (program, type of application, specific program or degree, deadline) and for each school forms/envelopes etc.

- \* Nov– Jan: Many application deadlines

# Things that Look Good

- \* Research experience (especially in area of specialization)
  - \* internships/REU's
  - \* thesis research
  - \* presentations at professional meetings and conferences (so consider starting your thesis project early!!)
- \* Additional coursework or a minor
  - \* in geophysics: math and programming experience
- \* GRE (quantitative! and verbal) can be very important, especially if GPA is on the low end
  - \* no Geology subject test
  - \* Physics subject test is NOT recommended, unless required
- \* Letter of recommendation from faculty outside of your department
- \* Well-written(!), timely(!) E-mail to potential advisors

# Other Suggestions

- \* Apply to range of schools, not all in same area
  - \* statistics of small numbers
  - \* California students are “cheaper” for UC schools (advisors only have to pay for local tuition rates)
- \* Different schools have different points of view on MSc versus PhD
  - \* Caltech: MSc is consolation price for students who fail their oral exams: do not apply for a MSc degree
  - \* UCR: students who start as MSc may continue on as PhD students, when they have “proven” themselves to their advisor
- \* Let us know about your career interests and goals, so we can forward opportunities to you
- \* Attend seminars and go out to lunch with seminar speakers

# CV/Resume Workshop

- \* If sufficient interest, we can hold a workshop to help you create a CV or resume, tailored for the specific applications (grad school, job, internship....)